REMARKS

Reconsideration of this application, in view of the foregoing amendments and the following remarks, is respectfully requested.

Claim Objections

Claims 24 and 26 are objected to because of certain informalities. These claims have been amended to remove informalities.

Claim Rejections -35 USC § 103

Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts (US Patent No. 6,577,670 Bi cited in the Office Action mailed July 9, 2004) in view of Widdowson (WO 99/38270 cited in the Office Action mailed December 7, 2004) and Tsui et al. (US Patent No. 6,061,393). Applicants respectfully traverse these rejections.

In rejecting claims 24 and 26 the Examiner stated that:

> "Since Roberts discloses excluding narrowband signals/packets from the wideband signals/packets (see column 1, lines 20-26), it would have been obvious to one of ordinary skill in the art at the time the invention was made to **combine** the method of **removing narrowband interference** taught by Widdowson **with the circuit of Roberts** in order to **avoid the requirement of filters** with very sharp cut-offs to attenuate the narrowband signal. (See Widdowson, page 2, lines 11-14)" (Emphasis added)

The Examiner seems to suggest that if the method of removing the narrowband interference suggested by Widdowson is added to the circuit of Robertson then it can eliminate the notch filter 14 of Roberts. Applicants respectfully disagree with the Examiner and point to the Examiner that the notch filter of Roberts is not just "a notch filter" but instead it is "an adaptive notch filter" which means that the selected frequency can be changed according to the input from Hop frequency predictor 24. Here is how Roberts' circuit works:

The FHSS monitor 20 continuously monitors the hopping frequency of Bluetooth transmission. In Bluetooth, there are at least seventy different possible frequency bands that can be used by communication devices. The actual frequency to use is determined by a master device and the master device communicates this to all slave devices. The FHSS monitor 20 monitors this activity and determines which frequency band will be used next. Based on this determination, the Hop frequency predictor 24 calculates the cutoff frequency for the adaptive notch filter 14 and programs the filter accordingly. As a result of this programming, the next cycle of narrowband communication by Bluetooth devices in the network is eliminated from the received signal.

On the other hand, Widdowson's method works as follows:

Widdowson's method is directed towards subtracting a narrowband interfering signal "prior to downconversion and demodulation" of the wideband signal (*see* col. 6, lines 49-52). Widdowson decodes the composite signal using "narrowband coding scheme" (*see* col. 6, lines 37-42), which means the wideband signal is filtered out and the narrowband signal is detected, demodulated, equalized, corrected, and modulated according to the narrowband signal specification (e.g., GSM standard in this case). This clean narrowband signal is then used as a subtracting factor by the signal subtractor 46 to subtract it from the original composite signal, which was delayed by a delay element 41 (*see* figure 11 and corresponding text). The amount of delay introduced by the delay element is equal to the combined processing delays of demodulator 42, channel estimator 43, modulator 44, and equalizer 45 (*see* col. 7, lines 5-6). Thus, basically Widdowson filters the narrowband signal by canceling it from the incoming composite signal.

The combination of Roberts and Widdowson:

As explained above, Robertsons' notch filter is programmable and is dynamically programmed according to the predicted frequency band use of Bluetooth devices. If Widdowson's method is employed in Robertsons' circuit, then it will subtract a predetermined narrowband frequency (e.g., GSM band); however, the moment a Bluetooth device hops to another frequency band, the combination will be rendered inoperable for its intended purpose. Further, combining Widdowson with Roberts will eliminate FHHS monitor 20 because its input

will be useless as according to the Examiner, the notch filter will be eliminated. Widdowson does not consider hopping spectrum of Bluetooth devices and Robertson is not directed to a given frequency band. Thus, Widdowson will miss all narrowband signals except the one for which the demodulator and modulators are designed for. Accordingly, no one skilled in the art will consider combining the two methods. In fact, these are two distinct methods targeted to solve two distinct narrowband interference problems.

Further, in a complete contrast, claims 24 and 26 recite receiving at the at least one wideband radio unit, data packet(s) comprising the wide band packet(s) and the one or more narrow band packets falling within the wide band radio unit's bandwidth; storing the data packet(s) in a buffer; decoding at the at least one narrowband radio unit, the one or more narrow band packets found in the received data packet(s); subtracting at the at least one wideband radio unit, the one or more narrow band packets from the received data packet(s); and decoding the received data packet(s) after the one or more narrow band packets have been subtracted. Neither of the cited reference individually or in combination suggests these limitations.

As to storing the data, the Examiner has stated that:

> "Tsui et al. teaches storing data before processing. (See column 6, lines 25-28 and 60-62) It **would have been obvious** to one of ordinary skill in the art at the time the invention was made **to stored the received data** in the device **disclosed by Roberts** in view of Widdowson in order to ensure that the data is available for subsequent processing. Storing the data also provides greater flexibility in determining when to process the data **"since the data does not have to be processed in "real-time"** (i.e. as it is received)." (Emphasis added).

The Examiner has suggested that the data "does not have to be processed in real time". Applicants respectfully disagree and request a careful reading of Roberts. Roberts have to determine in real-time which frequency band will be used next by the frequency hopping Bluetooth device so the adaptive notch filter can be programmed accordingly. The programming of the adaptive notch filter is done in real-time. The storing of data defeats the purpose of chasing frequency hopping of Bluetooth devices in the network environment so the next narrowband interfering frequency can be determined. Therefore, the Examiner's suggestion is

not correct and accordingly, claims 24, 26, and those depend therefrom are clearly and patentably distinguishable from the combination of cited references.

Applicant believes this application and the claims herein to be in a condition for allowance and respectfully requests that the Examiner allow this application to pass to the issue branch. Please charge any additional fees, or credit overpayment to Deposit Account No. 20-0668. Should the Examiner have further inquiry concerning these matters, please contact the below named attorney for Applicant.

Respectfully submitted,

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